



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

REISSUE SERIAL NO. : 08/818,520
FILED : March 14, 1997
EXAMINER : Yao
PATENT NO.: : 5,397,857
INVENTORS : Farquhar et al.
TITLE : PCMCIA STANDARD MEMORY CARD
FRAME

DECLARATION UNDER 37 C.F.R. §1.132

I, James R. Wingfield, hereby declare as follows:

1. I have several engineering degrees as set forth in my curriculum vitae attached hereto as Exhibit A. In addition, I have about 35 years of experience working in the mechanical engineering field.

2. I am currently an adjunct professor at the Illinois Institute of Technology, in the department of Mechanical and Aerospace Engineering. I am also currently employed as a Senior Reliability and Safety Consultant at Triodyne Inc., Niles, Illinois.

3. I have reviewed U.S. Patent No. 5,397,857, (hereinafter "the '857 Patent"). The '857 Patent teaches a packaging container for a printed circuit board. The package 10 includes four main components: an upper cover 12; a lower cover 14; an upper frame element 16; and a lower frame element 18. The '857 Patent teaches that the covers 12 and 14 are formed from stamped metal, and the frame elements 16 and 18 are made from molded plastic.

4. The '857 Patent teaches sonic bonding of the plastic frame elements 16 and 18 in order to secure the covers 12 and 14 together. The covers 12 and 14 are

held to the frame elements 16 and 18 by the bent edges of the covers and the metal fingers 26 that are injection molded into the plastic frame elements 16 and 18.

5. Based upon my review of the disclosure of the '857 Patent, it is my opinion that the inventors had possession of a package having one or more fingers extending from the sides of the covers for being secured to the plastic frame elements. In the exemplary embodiment shown in the '857 Patent, the covers include many fingers 26 on each side. However, this disclosure would also make it clear to one skilled in the art that the inventors had possession of using one finger on the sides of the covers, which is a subset of the many fingers shown in the drawings. To one skilled in the art, the purpose of the finger or fingers on the covers is to secure the covers to the plastic frame elements and to prevent sliding of the covers with respect to the frame elements. Based upon the disclosure of the '857 Patent, one skilled in the art would understand that this could be accomplished with one finger, as well as a plurality of fingers, on the sides of the covers.

6. Based upon my review of the disclosure of the '857 Patent, it is also my opinion that the disclosure enables one skilled in the art to make and use a package in which one finger, or a plurality of fingers, is used on the edges of the covers. By teaching how to make and use several fingers 26 on the edges of the covers, the '857 Patent would obviously teach those skilled in the art that they would use the same technique for making and using one finger as they would for a plurality of fingers.

7. Based upon my review of the disclosure of the '857 Patent, it is also my opinion that the inventors had possession of a package in which the edges of the covers are formed into a U-shape and then a frame element is injection molded within

the U-shaped edge of the metal cover. This type of structure is explicitly shown in Figure 4 of the '857 patent. Looking at the bottom of Figure 4, both covers 12 and 14 have their edges bent into a generally U-shaped configuration around which the plastic frame elements are injection molded. I note that the tip of the inner legs of the U-shaped ends are bent inwards, but the ends of the covers or edges still have a generally U-shaped configuration.

8. Based upon my review of the disclosure of the '857 patent, the patent also would enable one skilled in the art to make and use a package in which the covers have their edges formed into a U-shape and then the frame element is injection molded within the U-shaped edge of the metal cover. The '857 patent specifically describes the process of bending the edges of the covers and then injection molding the plastic frame elements. See, for example, column 3, lines 25-60. Further, Figure 4 illustrates the edges of the covers being bent into a generally U-shaped configuration.

9. Based upon my review of the disclosure of the '857 patent, it is also my opinion that the inventors had possession of a package in which the fingers are partially or fully injection molded into the plastic frame elements. The '857 patent generally teaches that the fingers are embedded into the frame elements to prevent separation of the covers from the frame elements. See, for example, column 3, lines 52-56. It does not matter if the fingers are partially or fully embedded as long as they prevent separation of the covers and frame elements.

10. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false

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statements and the like so made are punishable by fine or Imprisonment, or both, under
Section 1001 of Title 18 of the United States Code and that such willful false statements
may jeopardize the validity of the application or any patent issued thereon.

Date: FEB 15 2000


James R. Wingfield



Finally Rejected claim 16

SUB 1
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16. A peripheral device PCB package comprising:
two stamped metal covers with a plastic frame element corresponding to each cover, wherein the metal covers are fixedly secured to the plastic frame elements, the plastic frame elements forming an integral unit with the covers, the plastic frame elements being injection molded around a plurality of fingers extending from the periphery of the metal covers;

and wherein the plastic frame element extends beyond the plane of the metal cover so that a plastic perimeter surface is exposed, thereby facilitating the bonding of the two covers.

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17. The package as claimed in claim 16 wherein:
provided
ejector pins on the plastic frames are used to position a PCB.

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18. The package as claimed in claim 16 wherein:
the plastic frame elements include a polarizing key.

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19. The package as claimed in claim 16 wherein:
the plastic frame elements include energy directors to facilitate the bonding process.

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20. The package as claimed in claim 16 wherein:
a grounding point is established by metal-to-metal contact of the covers.

21. The package as claimed in claim 16 wherein:
the bonding of the two covers is accomplished through sonic welding.

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21. The package as claimed in claim 16 wherein:
the bonding process is accomplished by resistance welding.

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Art Unit: 1301

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Part III EXAMINER'S AMENDMENT

1. The examiner notes the amendment filed 8/8/94 contained two claims numbered 21; this appeared to be an inadvertent error and the second of these, directed to resistance welding, has been renumbered by the examiner as claim 24.

2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

Authorization for this Examiner's Amendment was given in a telephone interview with Keith Kline on 10/19/94.

3. The application has been amended as follows:

In the specification:

On page 6, line 13, change "end" to -- side ---. ✓

In the claims:

a. Amend claim 16 as follows: ✓

Issued Claim 1

C/ 16. (amended) A peripheral device PCB package comprising:

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two stamped metal covers with a plastic frame element corresponding to each cover[, wherein the metal covers are fixedly secured to the plastic frame elements,]; each cover having a first side and a second side with a plurality of fingers extending from said sides and wherein edges of the metal covers are bent to conform to the shape of the frame and said fingers are embedded in the plastic frame elements forming an integral unit [with the covers], the plastic frame elements being injected molded around [a plurality of] the fingers [extending from the periphery of the metal covers];

and wherein the plastic frame element extends beyond the plane of the metal cover so that a plastic perimeter surface is exposed, thereby facilitating [the] bonding of the two covers.

b. In claim 17, line 2, change "used" to -- provided ---. ✓

c. In claim 19, lines 2 - 3, delete "to facilitate the bonding process". ✓

d. Cancel claims 15, 21, 22 and 24. ✓

e. Cancel non-elected claims 10 - 14. ✓

4. The following is an Examiner's Statement of Reasons for Allowance:

Baudouin et al discloses a plastic frame with an adhesively bonded metal cover; Leung (US Patent 5,242,310) discloses snap